THE

EARLY STAGES OF TUBERCULOSIS.

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THE EARLY STAGES OF TUBERCULOSIS.

As the aim of this paper is limited to the study of some of the clinical aspects of commencing consumption, it does not of necessity concern itself with the consideration of pathological doctrines. It would nevertheless be at once matter of interest and profit to cast a brief glance, did time permit, upon some of the various phases of opinion held by those who have gone before us. The definition of tubercle by Morton, which formed the dawn of a new era; the careful researches of Baillie, leading him to the belief that there were two forms of phthisis, tubercular and non-tubercular; the wide generalization of a tubercular diathesis by Bayle, who, however, went astray in one direction, and paved the way for the opinion that there could be but one form of phthisis,—a doctrine supported by the overwhelming authority of Laennec, and accepted throughout Europe by almost every prominent writer, save Autenrieth, Schönlein, and Addison; the return to the dualistic views of Baillie and Vetter, effected mainly by the master mind of Graves, under whose guidance the unitarian dogma tottered to its fall; the more recent developments, foreshadowed by the brilliant induction by Villemin of the communicability of tuberculosis, and culminating in the achievements of Koch,—these and many other modes of thought might usefully engage our attention were they within the sphere of this communication.

For us, as practical physicians, however, it is impossible to pass over the modern change of opinion as to the prognosis in consumption—the phase of hopefulness, if such a term may be given to it. This paper does not touch upon pulmonary phthisis, commonly so called, and nothing can be said about the useful work of Rogée, and many others who led the way to the now universal belief in the frequent cure of wasting lung disease. But with regard to tuberculosis, with which we are now concerned, it must be remembered that Lebert has been instrumental in modifying the hopeless outlook which was, until twenty years ago, the only prognosis given in such cases. He narrated the appearances found in four autopsies of persons who had died of other diseases, and who

presented absolute evidence of cured disseminated miliary tuberculosis, and described two other cases, whose symptoms were undoubtedly tubercular, in which the disease was cured in his own hands. Since the date of his publication, well-nigh twenty years ago, many others have corroborated his statements in this country, especially M'Call Anderson, so that we are justified in giving a less gloomy, if still grave, prognosis in cases of tuberculosis.

This paper is prompted by a case which has recently been under my observation, and which seems to support the more hopeful views of our own times.

On the 24th February of the present year a gentleman, belonging to a seaport town in the north of England, came to consult me, complaining of a feeling of lassitude and feverishness, with copious perspirations every night.

History of Present Attack.—The first symptom was noticed early in January, and this was nightly perspiration. In the beginning of February a feeling of fatigue and lassitude began, which culminated about the middle of the month in extreme depression. At the same time he observed a loss of flesh. He consulted his medical attendant, who found the temperature 104° Fahr., and gave him medicine, which produced frightful purgation—I use the patient's own words—but lowered the temperature, and checked the perspiration, at the same time causing anorexia. When it was done the appetite returned, but the perspiration also recurred with the high temperature. He struggled on for a week or two, and then came to Edinburgh.

The previous history is on the whole satisfactory, but there is one fact which may have some bearing on the subject of this communication,—this being that for a good many years he has suffered every June and July from hay-asthma. With this exception he has had no illness, save the usual children's ailments.

The social history is in every way good, unless the life of a practical chemist is to be regarded as unhealthy. My patient has prosecuted some inquiries in this direction without finding any fact pointing to such a conclusion. For eleven years he has been in various laboratories connected with manufacturing chemists, chiefly makers of artificial manures. Perhaps our President will kindly inform us if he has in the course of his experience met with any instances in which such an employment has been prejudicial to health.

Family History.—The patient's father is a strong man of middle size, aged 64, who has enjoyed very excellent health until the last two or three years, during which he has suffered from bronchitis in winter. His mother, aged 64, has been a very active woman, but is now subject to some affection, said to be connected with the heart. There are two brothers, aged 34 and 27, the elder of whom is troubled with sore throat, and the younger has not been very

strong since an attack of diphtheria with a severe relapse, and subsequent paralysis. The patient has three sisters, aged 36, 31, and 23. The eldest has never been troubled by any ailment, and the youngest has also been at all times in good health, but the second had a fall in childhood over the bannisters, and is in somewhat delicate health, with a tendency to convulsive seizures. There have been no deaths in the family, which, although not robust, has certainly no apparent hereditary taint.

Condition when first seen.—Age 29; height 5 feet 7½ inches; weight about 9 stone—with fair complexion, gray eyes, and light brown hair. The face was rather thin, the bony prominences being unduly distinct, and the cheeks pale, with a bright spot on each side. The lips, gums, and palpebral conjunctivæ slightly blanched, and the sclerotic somewhat more than usually transparent. The tongue was flabby, and indented by the teeth, with a moist creamy fur behind. The skin was damp, and the muscles soft. The temperature was 102° Fahr. in the axilla. Of the pulse there is no note. On inspecting the thorax its form was seen to be normal, and its movements free. The blue tint of the veins could be seen through the skin more clearly than usual. There was no increase of the vocal fremitus to be found on palpation of either side. On percussion, however, there was a slight change in the note in the infra-clavicular area of the right side. There was no definite change in the pitch, but it was muffled as compared with the left side. On auscultation the breath sounds over the upper part of the right lung were found to be harsher than over the corresponding part of the left, and in the infra-clavicular and supra-spinous areas there was faint fine crepitation. There was not the least increase of the vocal resonance. The cardiac area was confined to its usual limits, and the sounds were healthy although the action was frequent. The position and extent of the abdominal organs were normal. The urine was measured a few days later, and found to amount to 20 fluid ounces per day. It was reddish yellow in colour, and highly acid, with a specific gravity of 1026. It contained no abnormal constituents, and gave, on quantitative analysis, 15·84 grains of urea per ounce, or 316·8 grains in twenty-four hours.

After thorough consideration and careful exclusion of every other possible disease the conclusion was reached, which seems unavoidable, that the patient was in an early stage of tuberculosis. The following mixture was prescribed:—

℞	Liquoris atropiæ,	. .	min. xij.
	Quiniæ sulphatis,	. .	gr. lx.
	Acidi sulphurici diluti,	.	fl. dr. iij.
	Aquam, ad,	. . .	fl. oz. vj. M.

Sig. A tablespoonful in water three times a day before food, and the food was ordered to be at once simple and generous.

Nothing would persuade him to remain in Edinburgh beyond

the next day, but he promised to return in three days, and to stay for a time under observation; he was therefore reluctantly allowed to go home to attend to some necessary business, although with some misgivings as to the prudence of permitting a man to go about with a temperature of 102°. He returned on the 28th, when arrangements were made for the registration of the temperature every two hours, and for the measurement of the urine, a specimen of which was daily tested for urea. His stay in Edinburgh was continued until the 11th March, beyond which date he found it impossible to prolong it. He continued to take the medicine which has been spoken of, and the same description of food, and if the weather was good, and his temperature not above 100°, he was allowed out a little every day.

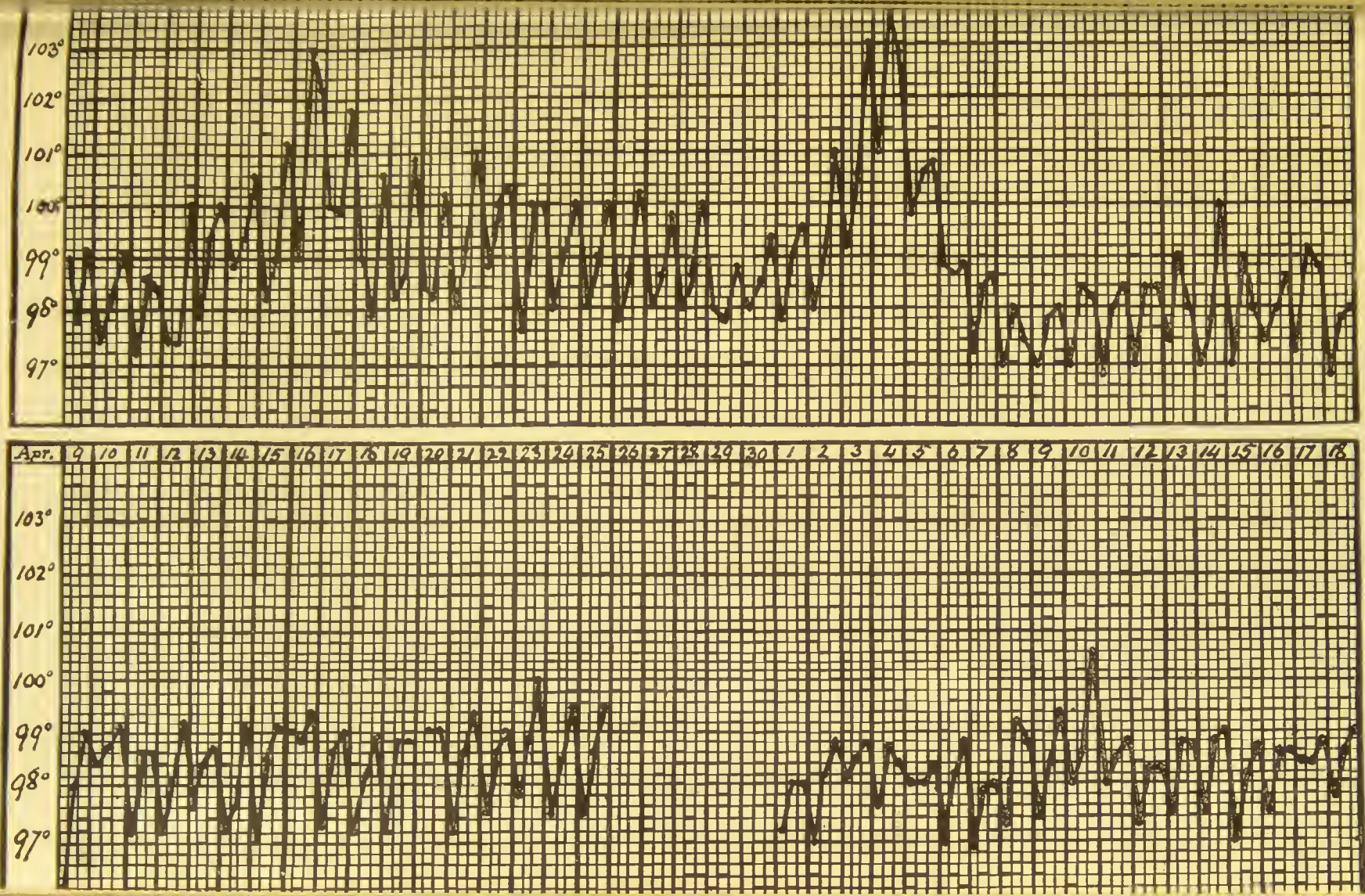
It were tiresome to follow all the details of his progress, and only a rapid sketch of it can be given here, which is filled in by facts noted on the temperature chart. For the first three days after his return the temperature was tolerably low, and the pulse did not exceed 80, but he perspired copiously every night. For some days afterwards, however, the temperature was high, and the pulse varied between 90 and 100, so it was deemed advisable to order him the following:—

℞ Quiniæ sulphatis, . . gr. xij.
Pulveris opii, . . . gr. vj.
Pulveris digitalis, . . gr. iij.
Misce et divide in pilulas xij.

Sig. One to be taken three times a day after food.

As already said, he returned to his home in the north of England on the 11th March, before which date the crepitation had disappeared and the harshness of the breath sounds became much less noticeable. Before permitting him to go home a promise was exacted that he would on no account attend to business more than two hours on any one day, and that he would, when in the chemical works, use a respirator with eucalyptus oil, in case any irritation of the pulmonary mucous membrane should be caused by the fumes given off during the chemical processes.

If we turn to the temperature chart, which begins with the 29th February, and on which the morning, midday, and evening temperatures are recorded, we see that there is a general tendency shown to a rise at night. On the 1st, 2nd, 3rd, and 4th March the morning temperatures were below normal, and until the 3rd the evening rise was not much above normal, but from that date it rose considerably, culminating in a temperature of 103° at midday of the 7th. It came down after that date, but the evening record was always 100° or more until the 18th, when it was lower; next night, however, it was again 100°, but on the three succeeding evenings it was 98°·8, 99°·4, and 99°·6. The following morning, that of the 23rd March, he somewhat incautiously took a hot bath,


103°
102°
101°
100°
99°
98°
97°
Apr. 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
103°
102°
101°
100°
99°
98°
97°

which he blamed for a rise of temperature which began on that day, and reached its climax in the middle of the 25th, when there is a record of 103°·6. On the evenings of the 26th and 27th the temperature was 100°·8 and 98°·8. The low morning temperature readings again began on the morning of the 28th, and with the exception of the 10th and 16th April continued until the 25th, when unfortunately the thermometer was broken and could not be replaced for some days. Sometimes the morning temperature was extremely low, as for instance on the 9th, when it only reached 96°·2.

Since the beginning of April the evening temperature has only three times reached 100°, on the 4th and 23rd April when it was 100°, and the 10th May when it rose to 100°·6.

During the first half of May there was a gradual return to a steadier temperature, the morning records, however, being as a rule too low. From the 1st to the 18th the temperature only five times reached or exceeded 99°, and since the 18th it has never reached 99° except once, on the 22nd of that month. In like manner the pulse gradually became less frequent, diminishing from the extremes of 80 and 100 to the more moderate limits of from 65 to 75.

Until the 16th March the patient perspired profusely every night, but on the 16th and 17th he was free from night-sweats, which returned the two following nights. On the 20th, 21st, 22nd, and 23rd he was again free of them, but on the 24th, when there was a rise in temperature after an imprudent bath, there was a return of the perspiration, which recurred every night until the 30th, being, however, considerably diminished on the 28th, 29th, and 30th. Since that date there has not been a night sweat.

The daily quantity of the urine and of the urea can be seen at a glance from the following table:—

	Sp. gr.	Urine in oz.	Urea in gr.		Sp. gr.	Urine in oz.	Urea in gr.
Feb. 29	1026	20	316·8	March 14	1014	67	412·72
March 1	1020	35	400·4	„ 15	1017	54	356·40
„ 2	1022	49	517·44	„ 16	1016	77	406·56
„ 3	1026	50	682	„ 17	1015	72	443·52
„ 4	1021	48	443·52	„ 18	1016	79	421·40
„ 5	1019	62	463·76	„ 19	1016	68	463·76
„ 6	1020	57	476 52	„ 20	1015	78	411·74
„ 7	1020	49	431·20	„ 21	1016	76	401·28
„ 8	1021	46	465·52	„ 22	1015	78	377·52
„ 9	1017	52	457·60	„ 23	1017	78	480·48
„ 10	1021	41	396·88	„ 24	1017	71	468·60
„ 11	1021	not measured.		„ 25	1016	64	450·56
„ 12	1022	46	485·76	„ 26	1017	62	672·88
„ 13	1015	63	415·80	„ 27	1020	56	492·80

From this date the analysis of the urine was discontinued. Along with the improvement in his general condition the patient gained weight steadily. On 13th March, two days after his return

to England, his weight was 9 stone 1 lb. A week later it was exactly the same, but the following week it began to increase. The weight is given below with the dates on which it was taken.

March	13	9 st.	1 lb.		April	24	9 st.	12½ lb.
„	19	9 „	1 „		May	2	10 „	— „
„	27	9 „	2 „		„	8	10 „	1½ „
April	3	9 „	9 „		„	15	10 „	— „
„	10	9 „	9 „		„	22	10 „	1½ „
„	17	9 „	10½ „		„	30	10 „	2½ „

During the preceding month of June the weight has kept steadily at the last figure or slightly above it. Save for a slight return of hay-asthma, his condition has been very satisfactory lately; he eats and sleeps as well as formerly, performs his duties fully, plays tennis a great deal, and takes much out-door exercise of all sorts, especially on horseback—in fact, he writes that he is as well as he ever was in his life.

At present he takes small doses of quinine, and makes use of cold sponging and subsequent friction. There seemed to be no reason for alarm more especially on account of his lungs than for any other organ, but as there is undoubtedly such a condition as chronic pulmonary consumption of tubercular origin, dumb-bell exercise has been recommended, for if the current theory be correct, that the elective seat of disease is due to want of expansion of the upper portions of the lungs, it follows that shoulder exercise must be one of the best preventives of the morbid change.

The aim of this paper is to make use of the case narrated in order to advance the propositions that there is in disseminated tuberculosis a distinctive period which precedes the outbreak of the graver symptoms, that this early phase of tuberculosis ought to be better recognised than it is, and that it is curable.

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